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BUREAU
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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

SEP -4 1937

Not for publication without
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REPORT FOR THE WEEK ENDING SEPTEMBER 4, 1937.

HAVRE:

Slightly cooler weather prevailed, with a minimum of 36° on August 29, light frosts occurring at several places in this vicinity. Precipitation during the growing season, May-August, totaled 7.55 inches, being approximately normal.

Threshing of small grain variety projects was completed early in the week. Cleaning seed, obtaining test weights, and preparing wheat samples for milling and baking are in progress. The September 1 date of planting winter wheat on fallow was made under favorable soil moisture conditions. Corn appears to be maturing satisfactorily, with a fair yield in prospect. A sub-irrigated field of Ladak alfalfa seed has been mowed, and the hauling of grain hays completed. Additional Russian thistles are being cut and stacked in Field C.

Maximum temperature, 87°; minimum, 36°; precipitation, 0.37 inch.

JUDITH BASIN:

This week much cooler temperatures were recorded, with one report of frost in a lower area. Conditions for fall seeding will be very poor unless some precipitation occurs. Work during the week has been largely miscellaneous such as cleaning crested wheatgrass seed, cutting rotation corn, reglazing windows, and shop repairs.

Dr. R. H. Bamberg of the State College was a station visitor during the week.

Maximum temperature, 87°; minimum, 35°; precipitation, 0.05 inch.

HUNTLEY:

A shower amounting to 0.06 inch falling on the last day of August brought the total for the month to 0.09 inch, which established a new low record for August at this station. The next driest August occurred in 1924, when 0.11 inch was recorded.

Harvesting operations continued during the week and included the cutting of soybeans, safflower, sorgo, millet, and Sudan grass. The yields of all these crops will be low. Fall plowing in the rotations and the preparation of land for fall seeding will be completed today. The soil on all plots is very dry, and no hope can be held for germination until rains occur. Despite the extreme drought a very heavy post-harvest growth of Russian thistles grew up along the plot borders, and it was necessary to remove these by hand before the plow could be used. This extra labor slowed up the fall tillage work considerably.

Maximum temperature, 94°; minimum, 40°; precipitation, 0.06 inch.

SHERIDAN:

Somewhat cooler weather prevailed over the week than for some time. The week was occupied principally with completing harvest of corn and late forage, except late varieties

of sorghum and late plantings of corn, and gathering seed of same. Rotation fall plowing was completed early in the week.

August just equalled the record here for the driest month, with only several traces of precipitation during the month. It was the warmest month so far this year and one of the warmest Augusts recorded.

Two horses on the station are down with so-called sleeping sickness. One, one of the best on the place appears not likely to recover, the other, one of the poorest, seems to be getting along fairly well.

Maximum temperature, 93°; minimum, 48°; precipitation, none.

MANDAN:

Agronomy - The past week was cool, with the exception of one or two days. The week was favorable for field work except for the delay by a couple of showers early in the week. Corn and sorgo varieties were cut. The yield of corn will be good, and sorgo was very good. Threshing of feed oats will be completed today. The yield is poor, but there will be enough for feed requirements.

The mean temperature for the month of August was the highest of record according to the U. S. Weather Bureau report from Bismarck. The mean was 75°. The previous high mean was 73° recorded in 1936 and two or three other years.

The total rainfall for August was 1.34 inches. The total precipitation for the year to the end of August was 13.32 inches, or practically normal.

Maximum temperature, 94°; minimum, 48°; precipitation, 0.25 inch.

Cooperative Grazing Experiment - Native vegetation has dried up during the past month, and much of it has matured. Blue grama grass produced a good seed crop, and with favorable conditions some reseeding should take place.

The steers made good gains during August. The steers in the 70-acre pasture made a high August gain, but their July gain was rather low. Steers in the mixed and the crested wheatgrass pastures are eating weeds that came into the pasture during the season.

Pasture (acres)	No. steers	Gain per head August	Gain per head 95 days
100	10	66	248.0
70	10	100	269.5
70 (Rot.)	14	65.4	228.9
7 (Crested wheat)	6	35.0	220.0
12.5 (Mixed)	4	58.3	226.7
93 (Reserve)	12	66.3	229.2

Horticulture - Several varieties of plums were picked during the week as they ripened. Sel. 73 looked good, the main fault with this variety being the tendency of the trees to split. A few crabs were also harvested, and the bulk of the fruit crop is now gone.

Softwood cuttings of small fruits and other shrubs are now rooted and ready to transplant. Many different things were tried in the cutting bed, and stands ranged from 0 to 100 percent according to the variety and species. Cutting to node or

internode, short or long lengths, and heavy or light foliage did not have very marked effects on stands.

Tomatoes are ripening well now, and several bushels were picked during the week and washed out for seed.

Seedcorn is also ripening nicely. There appears to be good results in selfing and sibcrossing from the majority of the strains now being worked on.

Melons are also ripening and are of fair size, but the quality is decidedly poor and so just a few selections have been made.

The dry weather continuing, blue grass lawns about the buildings were beginning to suffer, and irrigation has been in progress during the week. This will probably be the last irrigation this season.

ARCHER:

The weather during the week ending September 4 was cooler than during the previous week and gave the feeling of autumn. Considerable threatening weather prevailed, but only three light showers totaling 0.30 inch occurred. The cooler weather permitted the further maturing of the station corn crop which is now considered suitable for the pasturing of lambs. The potato stands have been greatly thinned by the continued drought. It will become necessary to harvest the millet unless considerable precipitation occurs very soon. Work at the station consisted of rebuilding some of the station fences and spraying white weed.

Director W. L. Quayle of the University of Wyoming and Howard Millsap of the Soil Conservation Service were station visitors during the week.

Maximum temperature, 88°; minimum, 51°; precipitation, 0.30 inch.

AKRON: Report for the week ending August 28, 1937.

Another hot, dry week. Corn has dried up and is being harvested as fast as it can be accomplished. Some proso also was harvested, but seed production will be light. Current field work is well in hand.

Although the season has been very devoid of rainfall, the trees and shrubs about the station are still in good condition. Grasshoppers also seem to be well in hand.

Early grain sorghum varieties are nearly ripe. Brown Manchu has begun to lodge. A good shower was received Southeastward from the station during the week.

Maximum temperature, 97°; minimum, 58°; precipitation, 0.05 inch.

AKRON:

Just another hot, dry week, but with local showers. August passed with 1.13 inches of precipitation, entirely inadequate for the needs this year. Rotation corn was harvested.

There has been very little accumulation of moisture in fallowed land at this station, and this is so far below the surface that it cannot be reached by any ordinary winter wheat seed-

ing machines. Winter wheat seeding must await sufficient rainfall to wet the surface soil.

Maximum temperature, 93°; minimum, 59°; precipitation, 0.12 inch.

COLBY:

A heavy rain fell generally over this section of the State last night, ending the long drought for the time being. It came too late for corn and too late for maximum yields of the sorghums, but was very timely for winter wheat seeding. It has wet the ground sufficiently to insure prompt germination of wheat. Wheat seeded now should make sufficient growth this fall to afford protection against soil blowing during the winter and spring. The sorghums on all the plots have dried considerably. They will, in all probability, not recover fully now. Most of the feterita headed, but the milo and sorgo are headed only along the edges.

Maximum temperature, 98°; minimum, 60°; precipitation, 1.44 inches. Precipitation for August, 1.04; precipitation, Jan.-Aug., 1937, 10.34; 50-year average, 17.71 inches.

HAYS:

Another hot, dry week was broken only this Saturday morning by a light shower during the night. A heavily clouded sky this morning provides favorable conditions for more rain during the day.

Except for very local areas where showers have occurred recently, pastures are brown and furnishing little or no feed. Feed crops suffered throughout the week. Only thin plantings or wide-spaced row crops are developing grain. Hopes for additional growth are generally abandoned, and the dwarfed and burned feed crops are being harvested. Many Russian thistles are being stacked for feed, as has been done during the past three or four years.

Maximum temperature, 100°; minimum, 65°; precipitation, 0.21 inch.

TUCUMCARI:

Another hot, dry week has added its toll to the suffering crops of this locality. During the past 13 weeks a total of 1.82 inches precipitation has been received, none of it effective. July was unusually hot, and August was the second hottest August on record, the second driest, and evaporation was unusually high. Yesterday a maximum of 99° was recorded--in 32 years this has been exceeded only once in September.

Rabbits and birds are unusually numerous. Sparrows are feeding in plots near the buildings and trees, while lark buntings in flocks of hundreds or thousands attack those areas farther away.

The past two months have proved to be a very thorough, but exceptionally severe, proving period for all crops. Sorghums have fired but little, but growth is limited, heads are small, and birds, rabbits, and drought are constantly hammering to bring yields to the minimum. When one can occasionally

dispel the discouraged mood and depressing outlook and look at the situation objectively, he is impressed that the struggle crops have made, and their continued development in spite of obstacles, is astonishing.

Official visitors of the week included Dr. John H. Martin; Dr. B. B. Robinson, Division of Fibre Crops; and E. W. Johnson of the Woodward station.

Maximum temperature, 99°; minimum, 66°; precipitation, 0.02 inch.

DALHART:

The month of August with a mean temperature of 80.5° was the hottest August so far experienced at this station. The scattered and local showers received during the month totalled 1.27 inches; the precipitation for June, July, and August was 4.18 inches, which compares with the average for the same three months of 8.00 inches. This deficiency in summer precipitation, with no reserve of moisture in the soil at planting time other than the generous May rains which furnished moisture for seedbed preparation, seed germination, plant emergence, and for plant growth to near heading time, clearly indicates why low yields and spotted yields will be obtained from grain sorghums. Rather frequent showers, which have been decidedly local in extent, have only prolonged the period in which kafirs and similar sorghums have delayed heading.

Heading was just well started on the July 19 date-of-planting plots of sorghums by the last of August. Should these plants become fully headed, and such is hardly possible because drought spots are in evidence, they could hardly mature because of the shortness of time before frost and cooler weather. Bagging of seed heads was discontinued after September 2. With the exception of Honey sorgo (which does not head here when the soil moisture supply is limited) a rather good seed supply is promised from the bagged heads of the desirable strains of sorghums. This is the first time that a seed supply has been replenished since 1932.

The best appearing plots on the station are the sorghum variety plots on fallow. In this test a selection of Sumac from a farmer's field shows earliness and drought evasion. The milo-disease nursery with the vivid differences between the susceptible and resistant strains presents an interesting study to visitors.

The bagging of seed heads of sorghums was completed, sacks were torn on those heads which had been bagged for a sufficient length of time, soil moisture sampling was continued, sorghum sampling for Prussic acid determinations, plowing of green manure plots, picking of cowpeas and the weekly treatments for certain perennial weed plots were the principal jobs of the week.

Visitors included 76 Sherman Co., Tex. farmers who made a tour, which was arranged by their County Agent, J. E. Crabtree, of the station experimental plots. They displayed a keener interest in experimental work and a more wholesome and earnest desire to learn of results than any similar group has evidenced

here in recent years. Among the several experiments which they had opportunity to study, the greatest interest was displayed in their study of the varietal differences of sorghums, soil tillage and planting methods to check wind erosion, the milo-disease nursery (incidentally the susceptibility of certain commonly planted strains to the disease, which was shown by the diseases rows in the nursery, and also the presence of certain desirable resistant milo types, such as Finney and the Texas Station Resistant Dwarf Yellow milos, 60-day or Sooner, Beaver, and several newer crosses which were furnished by Dr. John H. Martin and J. B. Sieglinger, gave opportunity for many to express appreciation for this type of work), the shrub nursery, and the vineyard.

John H. Martin and R. W. Leukel of the Cereal Division spent three days on the station in studying the cooperative sorghum project.

Maximum temperature, 97°; minimum, 62°; precipitation, 0.26 inch.

BIG SPRING:

High temperatures intermingled with some cloudy weather and light showers characterized the weather for the past week. These conditions have been very favorable for crop development and maturity. Milo throughout the county is ripening, and several fields are ready for heading; these fields look as if they should produce good yields. Station milo is somewhat later than most fields and will not be mature for two or three weeks. Cotton picking is starting in a slow way, but it should speed up somewhat within the next week or so.

Station work has consisted mainly of gathering bagged seed and heading May 15 date sorghums and pulling and seeding broomcorn in the dates and M.C. series.

Maximum temperature, 96°; minimum, 68°; precipitation, 0.10 inch.

LAWTON: Report for the two weeks ending August 28, 1937.

The 35-day period of heat and drought, July 15 to August 19, with an average maximum temperature of 104.2° for 24 days, and a total of 0.23 inch precipitation was broken by general rains that covered the State August 20 to 25. Heavy rains were reported in many localities, but the 2.94 inches recorded at the station fell so gently that there was practically no run-off. Subsequent temperatures have been very moderate, but a high humidity has been responsible for a very oppressive heat.

Upland cotton will not profit by this favorable break in the weather, but some of the creek and river bottom fields may show some improvement.

Late planted sorghums are making a very fine growth at present. Early planted and early maturing sorghums were too far advanced to receive any benefit.

Farmers are busily engaged in the preparation of seed beds for fall seedings of wheat, oats, and barley. Such seedings will be made early in order to secure as much fall pasture as possible.

C. E. Leighty, E. F. Chilcott, E. W. Johnson, and John H. Martin were recent station visitors.

WOODWARD:

It has been fifteen days since the rain of 1.51 inches August 19 gave crops a new lease on life. A week ago prospects were very hopeful for a grain crop, as the heads had swelled in the boots of both Kafir and milo, and some had actually emerged. During the past week there has been little further development. The diminishing moisture supply and cool nights slowed them up. Today about 0.70 inch was received as a slow rain with no run-off. It is generally felt, however, that nights from now on will be too cool to allow the grain now in boot to mature. Many of the cereal milos and feteritas will mature grain.

The perowskia, a bush about 4 feet high and as wide, now has the appearance of a lovely blue mist. The crapemyrtle, of which we have a hedge, is a solid line of color, pink, red, and purple blending. It never was better. The plumbago, a small plant that hugs the ground, has bloomed loyally all summer, and now has an especial wealth of dark, velvety blue flowers.

Work for the week has consisted of putting up hay and preparing all land for wheat.

NORTH PLATTE:

The weather continued warm and dry throughout the week until Friday evening at which time a good shower fell. The weather on Saturday was cool, cloudy, and damp. August ended with a total precipitation of 1.02 inches or 1.47 inches below average. Since January 1, the precipitation is deficient by 3.53 inches. The city Weather Bureau report shows a mean temperature of 80°. This record was equalled only once during the past 63 years. There were only a few days with temperatures of 100° or over, but the maximum temperatures each day were consistently high.

The work of the week consisted primarily of weighing fodder from the corn plots and cleaning this off the fields. The recent rain will help pack the fallow plots, and put them in condition for seeding. There is only about 3 feet of moisture in the fallow plots, and the prospects for next years winter wheat crop are not very encouraging.

The painting of the Dry-Land station buildings was completed during the week.

The sorghums on fallow continue to look good, although those of the forage type are rather short. Those on cropped land are very short and partially headed. The early varieties will be ready to harvest within another week.

Maximum temperature, 101°; minimum, 59°; precipitation, 0.48 inch.

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SEP 11 1937

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REPORT FOR THE WEEK ENDING SEPTEMBER 11, 1937.

HAVRE:

Moderate temperatures and mostly clear skies prevailed, the maximum being 82° and the minimum 43°. Precipitation amounting to 0.50 inch was received during a shower on the 5th.

Winter wheat, sown September 1, has emerged with very good stands, grasshoppers not damaging this planting so much as that sown August 15. Russian thistles in the stubble have made extraordinary growth, and mowing and raking will be necessary before fall plowing can be done.

The native range in this vicinity is heavily infested with Russian thistles and various species of pigweed. Considerable grass appears to be dead, although some scattered growth in the weeds is appearing following rains of the past ten days and a diminishing grasshopper infestation.

A light third cutting of alfalfa will be obtained from sub-irrigated tracts and portions of benchland fields. Range conditions at the Bear Paw Mountain lease continue excellent, and the station cattle are in very good condition. Threshing of registered Ladak alfalfa seed is in progress, a small yield of fair quality seed being obtained.

Station visitors included Robert Clarkson and Eric Wilson of the Resettlement Administration, Denver; and Dr. A. D. Stoesz, Soil Conservation Service, Rapid City.

Maximum temperature, 82°; minimum, 43°; precipitation, 0.50 inch.

JUDITH BASIN:

Rains during the early part of the week were not enough for fall seedings to emerge but have stimulated further seeding. Bulk corn was cut during the week. Fall plowing is being completed in the rotations. Winter wheat has been seeded in the tillage experiments, and the rotations will be sown the first of the week. Sowing of winter wheat in the Cereal nursery and varieties has been completed. Crested wheatgrass was seeded on the South Bench. The remainder of the crested wheatgrass seed, which is of good quality, has been cleaned.

Maximum temperature, 83o; minimum, 44°; precipitation, 0.51 inch.

HUNTLEY:

Light showers early in the week gave some encouragement to farmers waiting to plant winter wheat, although the amount of rain that fell locally was not enough to change the moisture content of the soil. Some planting is being done on fallowed land, but on stubble land seeding is being delayed until more rain is received.

Field work on the dry-land plots during the week consisted of miscellaneous tillage, hoeing weeds out of the fence rows, and weighing and bringing in the hogs from the dry-land pastures.

About 250 farmers visited the station during two days of a "station tour".

Maximum temperature, 87°; minimum, 41°; precipitation, 0.21 inch.

SHERIDAN

Fair weather continued over the most of the week, quite warm at times during the day, but decidedly cooler on the average than at any time since the rainy weather in July. Rain threatened at times, but nothing more than a trace was obtained.

More late forage was harvested, and threshing was then resumed. Varieties of small grain, proso, and flax were threshed. Yields of flax cannot be calculated until the seed is cleaned, but yields of some of the highest yielding varieties of the other crops were as follows in bushels per acre, for the average of 3 plots for each variety, or replication:

Winter wheat--	Yogo	20.8
	Cheyenne	17.8
Spring wheat--	Komar x Hussar	26.3
	Ceres x Hope x Florence Number 11708	23.8
	Reward	22.6
	Ceres	22.3
Oats--	Brunker	55.6
	Carleton--1st. replication	38.4
	2nd. replication	48.7
	Fulghum x Markton No.3220	48.1
Barley--	Sparton--1	41.6
	2	44.3
	Ezond	42.8

Some seeding of fall rye is now being done in this section.

One horse fully recovered from sickness noted last week, and apparently the other may recover also.

MANDAN:

Agronomy - The past week was favorable for most field work. The weather has remained fairly cool. One of the best rains of recent years fell early in the week, which put the soil in excellent condition for fall plowing. Russian thistles had to be cleaned from the plots for fall plowing, which started on the 9th and will be nearly completed today. Seed corn has been picked from the seed blocks. A seed block of Rainbow flint will furnish a quantity of very good seed. This is an early strain that has been grown on the station for a number of years.

Maximum temperature, 89°; minimum, 46°; precipitation, 1.30 inches.

Cooperative Grazing Experiment - Crested wheatgrass is making a good growth since the rain and is now furnishing some new pasture.

Horticulture - Several of the later varieties of plums were picked during the week, including Wyant, Terry, Stella, Wolf, DeSoto, and Hanska. A few varieties still remain to be picked next week. Fair yields were obtained, and the quality of the fruit was above average.

Grass and winter rye were seeded in several places to prevent soil erosion. Washing of the soil on cultivated slopes is becoming increasingly difficult to handle. Terracing may become necessary in some of the plant breeding blocks.

Harvesting of tomatoes for seed has been in progress during the week. About 650 pounds have been washed out for seed so far.

Sweetcorn is getting ripe in the breeding plots, and harvesting of selfed and open pollinated ears will begin next week. The heavy rain received early Monday morning has revived vegetable crops a great deal. A fair yield of root crops is now anticipated and also an excellent crop of cucurbits. Watermelons are fine, but muskmelons are almost inedible; cucumbers, squash, and pumpkin are very good.

The Banquet squash put out this year by the O. H. Will Seed Co., Bismarck, N. Dak., seems very promising as to earliness, but the type is decidedly variable and counts against it. The much praised Buttercup squash which it resembles, is unfortunately a little too late for the locality of the station, and an earlier variety similar in quality and production would be very welcome.

Phlox, Gaillardia, Shasta daisies, and a few scattered Delphiniums are the only perennials in bloom at the present time. Cannas and geraniums as yet are a riot of color.

Arboriculture - Russian thistles and other weeds are being pulled and hauled away from nursery stock which will be dug this fall. A rank growth of thistles in the Siberian pea-tree fields were allowed to remain in the rows to lessen the severe grasshopper and blister beetle injury to stock taking place during the middle of the summer. E. J. George returned on the 10th after completing collection of data for shelterbelts in North Dakota, South Dakota, Wyoming, and a small section of eastern Montana. Trees have suffered badly as a result of the unfavorable moisture and insect conditions of the past few years. Very little moisture was found stored in planting sites for the spring of 1938.

ARCHER:

The weather during the week was cool. A rain totaling 0.52 inch occurred during the afternoon and night of September 4. This brought cooler weather, however, it is warmer today.

The station corn, while late, due to hail damage, is maturing a light crop of grain and stover. Since the rain of September 4 tubers have set on the late planted potatoes, but unless frost is unusually late the crop will be very small. The potatoes on a tenth acre plot were dug, and the yield was 25 pounds of small tubers. Due to the dry weather during August the millet is practically a failure.

During the week the winter cereals were seeded in the rotation plots, and 20 acres of rye were seeded in the dairy field. Weed spraying continued until Wednesday when the harvesting of the droughted millet and Sudan grass crops began. Fence work continued.

Owing to the dry, hot weather during August the grain prospects of corn were greatly reduced in this section, and a large acreage is being cut for forage.

Dr. J. E. Weaver of the University of Nebraska visited the station September 9.

Maximum temperature, 87°; minimum, 44°; precipitation, 0.52 inch.

NORTH PLATTE:

The weather for the week was typical fall weather. Little rain has fallen at the station, but heavy rains are reported from surrounding localities.

The potatoes on the D.L.A. plots were dug. The yield figured on total weight of potatoes ranged from 28 bushels per acre for those on stubble to 41 bushels per acre for those on corn land and 82 bushels on fallow. The potatoes were small, mostly grading as No. 2. Seeding of winter wheat was started on cornland. There is enough moisture to sprout the wheat, but there is no moisture in reserve below the first foot. The moisture condition in the first three feet on fallow is much more encouraging for seeding wheat than last fall. The Sudan grass seeded in the roadways is heading and will not only protect the plots from blowing during the winter and spring but will also provide some feed.

Maximum temperature, 89°; minimum, 59°; precipitation, 0.10 inch.

COLBY:

The week was cool and rainy. Not much rain fell here, but the precipitation was heavy in spots over this section of the State. Sorghums have revived considerably as a result of the heavy rain last week, and the pastures are turning green again. Much of this greenness is from grama and other perennial grasses which looked dead all summer. Volunteer wheat is also thick in many fields. Seeding of winter wheat is in full swing. Many fields seeded before the rain are up. Some reseeding may be necessary where the rain was so heavy that it buried the seed deep.

Maximum temperature, 90°; minimum, 50°; precipitation, 0.14 inch.

HAYS:

The weather has been generally partly cloudy and damp including fog two forenoons. The soil was too wet for tillage Monday, Tuesday, and Friday.

The sorghums on the project that survived the drought and have headed will mature some grain providing frost does not come too soon. Volunteer wheat is now coming up, so that it will probably be necessary to give all wheat plots another surface tillage operation before seeding.

Grasshoppers are coming into the plots in such numbers that it will be necessary to make at least one more application of poison-bran-mash to protect the wheat (soon to be seeded) from grasshopper damage.

Alfalfa seeded sometime ago has emerged to an excellent stand and looks fine. It is a question, however, whether or not we will be successful in preventing its destruction by grasshoppers. Poison-bran-mash is being used liberally, but an isolated plot of alfalfa in a whole project has little chance. Work during the week consisted largely in collection of soil samples, counting stands of row crops, and grading to protect some of the plots from loss of soil by water erosion, if and when water comes. The group of wheat stubble plots scheduled for listing, plowing,

one-waying, and chiseling September 10 are being tilled today--the soil was too wet yesterday.

Maximum temperature, 90°; minimum, 54°; precipitation, 1.39 inches.

GARDEN CITY: Report for the two weeks ending Sept. 11, 1937.

Temperatures have been rather pleasant during the past two weeks, and the maximum of 100° was reached on only one day. A 0.73 inch rain fell on the night of September 3, and 0.04 inch fell on September 7. These rains helped the crops considerably, and the Sudan grass which was burned brown is now greening up. The total rainfall for August was 0.21 inch, which is the least on record for any August.

The row-crop yields will be very small, even less than last year. There are a few milo heads on some of the fallow plots and also on the 132-inch row and 16.5-foot row milo plots. Volunteer wheat is coming up on those wheat plots that were worked after harvest. These will be rodweeded in the near future. Wheat seeding will probably be delayed again this year due to poor moisture conditions. Tenmarq wheat will be used this year instead of Kanred, because it yields a little higher and does not lodge as readily.

Maximum temperature, 100°; minimum, 54°; precipitation, 0.77 inch.

TUCUMCARI:

Following a torrential rain of 1.91 inches the night of September 4, temperatures have been lower, cloudy skies have prevailed much of the time, and wind movement has been low. Crops have revived remarkably and will no doubt make considerable vegetative growth. The grain yield of sorghums will not be materially increased on any except the very late plantings, as small, stunted heads on most plots are well toward maturity. Suckers probably will not mature seed.

Bird damage has been the most severe in years. Lark buntings are present by the thousands and apparently are making a longer stay than usual before continuing south. Little feed in this vicinity and fewer hawks than usual have resulted in a heavier concentration of buntings than in at least ten years. Sparrows also are a problem.

Cowpeas were hauled and weighed, late cultivating was performed, wheat land was prepared and seeded, and roads were worked during the week.

Maximum temperature, 90°; minimum, 63°.

DALHART:

Two more showers during the week furnished a total of 0.44 inch; this gave a total of 0.86 inch within a week, but experience indicated that this was insufficient for drilling wheat or rye at this time of the year. That there were rains of consequence in the territory northwest of here is indicated by the fact that the Rita Blanca has had sufficient water to prevent crossing at the regular highway crossing since early Monday morning.

The cooler weather ushered in by the showers has permitted the grain sorghums to continue heading and to use the moisture

for maturing grain. Only shallow penetration was secured with the rains, as shown when plowing the late plowed plots.

A rather unusual reading is being secured with Brabham cowpeas on all plots (rotations, varieties, and increase plots) this year. Normally the Brabham variety gives the maximum vine growth and the minimum of seed production of the cowpea varieties tested and usually is the latest maturing variety. This year the Brabham was one of the earliest blooming varieties, matured pods soon after Blackeye, and gave an almost unprecedented yield of peas with a minimum of vine growth. The seed used was from the 1936 rotation plots.

Sooner and Day milo and Feterita which were planted July 19 are fully headed and with a normal frost should produce a good crop. Sudan grass is making a second crop which promises more than the light first crop.

Visitors during the week included Dr. W. C. Lowdermilk and H. H. Finnell of the Soil Conservation Service.

Maximum temperature, 88°; minimum, 58°; precipitation, 0.44 inch.

BIG SPRING:

Weather for the most part has been exceptionally warm for this time of the year. Rains threatened on several occasions, but only a light shower was received. Cotton is not opening as fast as was expected; this is probably due to the fact that there is sufficient moisture in the soil to cause the bolls to open normally, rather than prematurely as is often the case during dry weather. There will probably be considerable cotton picked next week, but it will be two or three weeks before the job gets under full swing.

Station work has consisted of harvesting an increase field of cowpeas, picking early dates of cotton, and gathering cowpea seed from the variety plots. Bagged seed from a number of sorghum varieties was also cut.

Maximum temperature, 98°; minimum, 59°; precipitation, 0.08 inch.

LAWTON: Report for the period, September 1 - 11 inclusive.

Torrential rains struck many localities in southwestern Oklahoma during the last week. The 6.25 inches recorded at the station, September 4 to 7 was highly torrential in character, resulting in heavy run-off that eroded plowed land and overflowed ponds in the pasture lands. Where the slope was not too sharp, basin listed fields held the water without breaking the dams in the furrows. Some loss was noted on long rows where the slope was rather sharp.

The total rainfall during the 18-day period, August 20 to September 7, amounted to 9.5 inches, which was 41 percent of the yearly total, 21.86 inches, to date.

Volunteer growth of wheat, oats, and barley is coming along rapidly. A field of Atlas sorgo, planted about June 1 is heading and promises a very heavy tonnage of forage. Cotton is renewing growth in the tops of the plants, foliage is heavy, and immature bolls will be large. The web worm is reported in some localities.

and indications point to a very general and heavy infestation in the near future. Native grasses that appeared to be so thoroughly depleted in the better pastures are responding to the fall rains with a surprisingly nice growth.

A 4-H Club school in grain judging was held on the Station September 8 under the auspices of the State Extension officers, with an attendance of 45 boys from 6 counties.

Mr. Wilfred Walter Bryan, Instructor in Plant Breeding at the Queensland Agricultural High school and College, Department of Public Instruction, Brisbane, Australia, was a station visitor September 8 and 9.

WOODWARD:

3.41 inches of rain have fallen here over the past eight days. For the most part it has come gently, so there has been little run-off. Soil is consequently in most excellent condition for the seeding of wheat. Farmers are rushing in wheat as rapidly as possible, sacrificing top yields in favor of pasture and blowing control.

Sorghums suffered greatly due to drought through July to August 19, when a rainy spell started totaling 1.87 inches. They then made rapid normal development, but this was slowing up when the present rainy period started on September 3. Over the past week there has been further rapid growth, despite cool weather. Milo seems to be developing quite normally. Heads of kafir, however, seem stunted and small, and there will likely be much branching, giving forage, but little grain.

Roses are a riot of bloom, and crapemyrtle is fairly outdoing itself.

Maximum temperature, 90°; minimum, 59°; precipitation, above.

PENDLETON: Report for the two weeks ending September 11.

Harvest of all crops except corn has been completed. Work on the station during the past two weeks has consisted of chiseling, fall disking, cleaning seed wheat, hoeing weeds, and general cleaning up. Due to dry fall seasons the past five years, more and more spring wheat has been sown. With the spring sowing of wheat the Russian thistle has become a problem in the stubble. Normal fall rains, so that the land could be worked and the wheat sown by November 1, would largely eliminate the Russian thistle problem. Only a small part of the 1937 wheat crop has been sold in this area, due to low prices. Price of No. 1 White wheat in Pendleton today is 80 cents.

Maximum temperature, 92°; minimum, 42°; precipitation, 0.31 inch.

AKRON:

Heavy rain early in the week followed by appreciably cooler and slightly cloudy weather reminds that the fall season is at hand. This memorable rain, purely local in this immediate region, approached from the North late Monday afternoon. Its greatest intensity in this region was over Akron, where 2.43 inches precipitation was recorded for the approximate half-hour

fall. At the station, 4 miles East, 1.48 inches was recorded, and at Otis, 15 miles East, a trace. There was only slight run-off from the station soil, and from those of this immediate region, but sand creek, one-half miles South was soon a roaring torrent from the loss in the Akron region.

There was good soil penetration in all prepared station soils, and winter wheat seed beds were placed in ideal condition for seeding. Fallowed land has not stored an abundance of moisture from the season's meagre rainfall, but is in fair condition to justify a fair yield next year. Nursery fallow showed 30 inches of wet soil, and the 20 acres, nearly a half mile further west, showed 48 inches.

Rotation winter wheat plots were seeded Friday, just as soon as the surface soil became sufficiently firm. Winter wheat varieties are being seeded today. This is in good seeding season, with surface soil moisture sufficient to insure prompt emergence, and considerable top growth before cold weather. Current field work is well in hand.

Visitors to the station included: Monday: H. S. Smith of the Cereal Division, and D. W. Robertson and L. R. Bryant of the State College. Tuesday: E. W. Nelson and Joe Trevens of the State College; David F. Costello of the Rocky Mountain Forest Experiment Station; P. L. Ginder, Clarke Anderson, and L. A. Sample of the Denver Branch of the Forest Service; and C. L. Kinzey, and A. D. Harvey of the Colorado Springs Soil Conservation Service.

Maximum temperature, 83°; minimum, 52°; precipitation, 1.51 inches.

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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

SEP 18 1937

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REPORT FOR THE WEEK ENDING SEPTEMBER 18, 1937.

HAVRE:

Clear skies, warm days, and very little wind characterized the weather of the past week.

Threshing Ladak alfalfa seed was completed, and a light crop of flax and miscellaneous small grains from the experimental field were threshed. A corn, sorgo, and Sudan grass comparative yield project was harvested, and green weights were obtained. Date of seeding plantings of crested wheatgrass in weedy land and of winter wheat were made, also 18 acres of Dakold winter rye for grain hay. Considerable Northwestern Dent seed corn is being obtained from the D.L.A. field, where picking is now in progress. A small crop of third cutting alfalfa hay has been stacked.

Visitors included Edward C. Coey, Agronomist of the Soil Conservation Service, Culbertson, Mont., conferring about tillage work at this station.

Maximum temperature, 85°; minimum, 40°; precipitation, none.

JUDITH BASIN:

Cool nights and delightful days prevailed throughout the week. Conditions for fall seedings remain very poor. Winter wheat and rye in the rotations and the rates of crested wheatgrass in the west field were seeded during the week. Germination will depend on the time and amount of moisture that is precipitated this fall. Some miscellaneous hoeing and repairing occupied the remainder of the week.

Maximum temperature, 86°; minimum, 41°; precipitation, none.

HUNTLEY:

The weather continued clear and favorable for field work during the week. Seed corn was picked from the seed blocks, and all remaining corn was cut. The amount of smut in the corn was unusually high this year, and the amount of apparently clean seed obtainable was small. Sorgo, Sudan grass, and soybeans were weighed and hauled in to the feed lots. The yields were below the average on most plots.

The seeding of winter wheat and rye in the rotation plots should be completed today. The soil is dry below the depth of seeding on all tillage treatments. Winter wheat planting on the benchlands is under way but is not yet general as many farmers are waiting for rain before sowing.

Maximum temperature, 91°; minimum, 37°; precipitation, none.

SHERIDAN:

Fair weather continued over the week, with rather high daytime temperatures for the season, but with night temperatures approaching the frost line.

Mostly miscellaneous work occupied the week, threshing the remainder of the flax, some Sudan grass and millet for seed, cleaning grain, clearing thistles from some fields for fall seeding, and temporary fencing. Some plowing is being

done in this section, and there has been some seeding of fall grain.

Some varieties of grain sorghum have now ripened what appears to be a fair crop of seed.

Maximum temperature, 92°; minimum, 36°; precipitation, none.

DICKINSON:

Generally mild temperatures continued with no rain. Vegetation freshened up after the rain on the 7th. A frost would be of benefit to stop the growth of weeds, including Russian thistle, which is still using soil moisture.

Winter wheat and rye planted earlier have germinated only in more moist locations. Crested wheatgrass has greened up and is providing some pasturage now.

Fall plowing on the rotation plots was completed. Sorgo and Sudan grass in the forage test were harvested. Harvesting of feed sorgo was completed during the week. The last was cut with a header with elevator removed, since neither a corn binder or grain binder could be used because of the weeds.

Maximum temperature, 87°; minimum, 34°; precipitation, none; precipitation to date in 1937, 14.73 inches; normal precipitation, 12.29 inches.

MANDAN:

Agronomy - The past week has been cool with a heavy frost on the night of the 16th when the temperature dropped to 31°. Fall plowing was completed early in the week under very favorable conditions. Winter rye was seeded on the 14th.

A good deal of work has been done in field P, mowing weeds to get them out of the way for fall grass seeding and putting in some more terraces.

Maximum temperature, 85°; minimum, 31°; precipitation, none.

Cooperative Grazing Experiment - Crested wheatgrass made more growth during the week and is now furnishing some good pasture.

Horticulture - All fruit has been picked. Most of the late varieties bore light crops. Burwood and Emerald plums bore good crops considering the condition of the trees. Grapes bore light crops, but the vines made a vigorous growth this year and should be in condition to do better next year. Beta, Suelter, and Alpha were the highest yielding varieties.

Seeds of plums and apples have been washed out and stored in sand.

Picking tomatoes for seed has been in progress during the week. The yield is fair,and the quality, especially of Rosana (No. 4) is quite good. About 1/3 of the crop is estimated as lost through heat damage during August.

The vines were nipped by frost on the 16th, but a fair yield will still be realized if killing frost holds off.

The taking of 2,000 geranium cuttings was completed during the week. So far this bedding plant has escaped frost damage, and only little such is evident on the canna beds on the grounds.

Arboriculture - Lilac seed was picked during the week, and a start was made on the collection of Russian-olive seed. Seed of the latter species is still rather green, but it is being taken so fast by birds it is necessary to collect immediately if the needed supply is to be obtained.

A number of spruce have been transplanted in the main windbreak where moisture conditions are fairly good for the first foot. Fall notes and height measurements have been taken on part of the experimental tree blocks.

Visitors for the week included the following from the Soil Conservation Service: A. D. Stoesz, Regional Director, A. D. McKinnon, State Coordinator, together with 15 of the technical staff drawn from North and South Dakota and Montana, on the 13th. L. C. Tschudy, Regional Engineer, Earl A. Cole, O. Leon Anderson and Mr. Brandenburg were at the station later in the week.

BELLE FOURCHE: Report for the week ending September 11.

Cool weather prevailed most of the week. A heavy rain of 1.22 inches was received on September 5, and an additional 0.74 inch was recorded on September 9. Considerable run-off occurred during both storms, as the surface soil was quite wet from an 0.80 inch rain on September 3. The precipitation for September to date is 2.80 inches, which is 1.50 inches in excess of the average for the month, but only 0.61 inch was received during the preceding month. The total precipitation for the year to date is 17.64 inches, as compared with the 29-year average for January to September, inclusive, of 13.66 inches.

The first foot of soil is well filled with moisture, and prospects for fall grains are unusually promising. Crested wheatgrass and sweetclover are making a good growth, and a heavy stand of volunteer grain has developed on stubble land.

The frequent rains and slow drying of the soil permitted very little work in the field. Weeds were mowed on several plots, but plowing could not be resumed. Harvesting of corn and sorgo was stopped by rain after only a few plots had been cut.

Maximum temperature, 91°; minimum, 47°; precipitation, 2.00 inches.

ARCHER:

Dry, clear weather with mild temperatures prevailed during the week ending September 18.

Winter wheat seeded in the rotation plots September 7 and 8 produced good stands on fallow but rather poor stands on cropped land. Winter rye seeded in stubble ground produced better stands than winter wheat seeded on a similarly prepared seed bed.

The sorghums are rather interesting at this date. Colby milo (Nos. 10 and 31), Sixty Day milo, Kafir Sel. 6 (Aaron Station), Cheyenne Sweet Stalk kafir, Early kalo, Coes (Improved), Fremont Sorgo Cane, Red Amber Sorgo Cane

were seeded in varietal plots. Only Red Amber has matured sufficiently to produce grain for seed. Cheyenne Sweet Stalk, Coes (Improved), Fremont sorgo, and Red Amber sorgo have made sufficient growth to furnish forage. Dwarf Freed x Dwarf feterita 151-4 (received from the Woodward Station) was seeded in an isolated plot. This variety produced considerable seed. The damage caused by the hail storms of July 15 and 18 delayed the growth of the sorghum crop.

The seeding of winter cereals was finished during the first part of the week. The silage corn has been cut, and the last of it will be put in the silo today. Lambs were selected and weighed for the corn pasture experiment.

Director W. L. Quayle visited the station September 15.

Maximum temperature, 85°; minimum, 42°; precipitation, none.

NORTH PLATTE:

The weather continues dry, and no rain fell during the week. To date, for September, 0.61 inches has been recorded. The days continue warm, but at night the temperature drops to the low forties.

The winter wheat nursery was seeded during the week, and nearly all the wheat was seeded on the D.L.A. plots on Saturday. Soil moisture is very limited, and there is not enough at the surface so that the wheat will emerge uniformly. One field seeded a week ago is showing some green but is not making much growth. The early varieties of sorghums were harvested. The shorter varieties have been stunted by drought and do not harvest well with the corn binder.

A sorghum tour was conducted on Friday. There was much interest in the sorghums, especially those suitable for producing grain. About forty farmers were present to inspect the plots.

Maximum temperature, 89°; minimum, 45°; precipitation, none.

AKRON:

The weather during this week has been cool and clear. Winter wheat seeded the 10th on the rotations has emerged but spottedly over the project. Rotation kafir plots were harvested; the continuously cropped plots, seeded to the improved Coes promise excellent yields; those seeded on small grain stubble preparation promise some grain yield in marked contrast to the burned-up corn. Plums and pears were gathered from the fruit orchard. Burwood, a very desirable fall-ripening plum variety, produced well this year. Flemish Beauty pear, a young tree, is coming into bearing. Pens were made ready for the receipt of three lots of 10 pigs each for fattening this fall in cooperation with a local farmer and the State College. Nursery seeding was completed after holding two selected men constantly over the past 10-day period. Grain and forage sorghums are fully ripe, and for the time being current field work is a little out of hand.

C. C. Noyes, county agent, and about ten farmers from Dundy County, Nebr., visited the station Thursday in the interest of sorghum adaptation studies. John H. Martin and

R. W. Leukel of the Department also visited Thursday. R. P. Yates, state seed inspector, and E. D. Graves, local county extension agent visited the station Friday.

Maximum temperature, 87°; minimum, 47°; precipitation, trace.

COLBY:

The week was dry and cool. Two afternoons were windy enough that a number of fallow fields in this vicinity blew some. The sorghums are still making some growth on the moisture received early in the month. The milo and sorgo on the plots are heading only in some of the border rows. This is also true of the kafir. The feterita has headed out for the most part.

The winter wheat plots were seeded Thursday and the rye plots Friday. There appeared to be sufficient moisture for germination on all plots, if the weather remains reasonably favorable. Moisture samples show that there is less than a foot of moist soil in cropped land and between 20 and 24 inches of moist soil in fallow land.

Maximum temperature, 88°; minimum, 45°; precipitation, 0.04 inch.

HAYS:

The weather during the week was generally quiet and cool. Feed crops are at a standstill except for the comparatively few plants that headed and did not blight. These are slowly developing grain. Practically none of the sorghums or feed crops planted on cropped land have developed heads except where the crop was wide-spaced.

Wheat drills have been putting in long hours over this part of the country during the past week. Perhaps 75 percent of the seeding in this locality was finished during the week. Generally the top soil is in excellent condition, and germination should be prompt. The fact still remains that there is a scarcity of moisture in the subsoil.

Grasshoppers are numerous and are already taking a share of the early seeded wheat around the edges of the fields. On a short trip in the country yesterday, one farmer was observed re-drilling a portion of his field where the grasshoppers had destroyed the first seeding.

Maximum temperature, 90°; minimum, 49°; precipitation, none.

GARDEN CITY:

Maximum temperatures for the week ranged from 78° to 91°, and only a trace of moisture was received. Rainfall has been very spotted over the county. In some sections there is sufficient moisture for wheat seeding, and many farmers have finished drilling. The station should have at least an inch of water before seeding, and then the prospects for a crop would be a gamble.

Field work consisted of breaking down ridges in preparation for wheat. The station has just recently purchased a new 14½-ft. John Deere field cultivator, and this was used instead of the ridge buster. It does not pulverize the soil

as does the ridge buster under these dry conditions. Other plots that are to be seeded to wheat were also worked with the field cultivator.

Plowing and one-waying was done as is scheduled, and cowpeas and Sudan grass were turned under for green manure. The cowpeas on the plots that are seeded to wheat this fall were harvested, and only a small yield was obtained. Few blossoms or pods were formed except on the borders.

Soil samples were taken on the wide-row milo plots, the M.C. and M.F. milo plots, and on the milo dike plot.

John H. Martin and R. W. Leukel of the Division of Cereal Crops and Diseases were visitors of the station.

Maximum temperature, 91°; minimum, 50°; precipitation, trace.

DALHART:

With the temperatures near seasonal and with no precipitation, the moisture received during the preceding week has been nearly exhausted by growing crops. The tree plantings show the surface soil completely dried out. Already one begins to worry over the poor prospects of obtaining stands of wheat and rye and of growth to check blowing.

Work during the week has been largely seasonal and included harvesting and cocking of cowpeas, the usual soil moisture and sorghum sampling, some soybean harvesting, weighing Sudan grass forage plots, and picking of cowpea seed.

Visitors during the week included Dr. F. D. Richey, Chief of Bureau, and E. F. Chilcott, D. A. Savage, and J. B. Sieglinger, of the Woodward Station.

Maximum temperature, 90°; minimum, 52°; precipitation, none.

TUCUMCARI:

Temperatures have been much lower the past week, but crops have continued development normally. Their response following rain of 1.91 inches two weeks ago was very marked. Early plots were beyond recovery, but all others have improved greatly.

Bird and rabbit attack is still severe, but several thousand lark buntings have at last left the vicinity, migrating southward.

Wheat and rye plots seeded the 9th and 10th were up to good stands in four or five days. Seedings in the vineyard and orchard may make enough fall growth to aid in reducing soil blowing: the past several years insufficient growth was made to be of any benefit in this respect.

Work included late cultivation; seeding wheat and rye; harvesting Sudan grass, broomcorn, and cowpeas; and gathering bagged seed heads.

Maximum temperature, 91°; minimum, 53°; precipitation, 0.02 inch.

BIG SPRING:

Unusually warm weather for this time of the year prevailed during the week. This hastened the opening of cotton, and as a result picking is getting well under way. Milo and

other sorghums are rapidly maturing, but it is quite evident that there is not sufficient soil moisture available to develop heads of normal size.

Station work has consisted mainly of picking over the cotton varieties for the first time, heading kafir plots and cutting the stover, and in making the second cutting of Sudan grass. Overhauling the ensilage cutter and picking cowpea seed has also required some time.

Maximum temperature, 96°; minimum, 54°; precipitation, none.

LAWTON:

Field work progressed nicely during the past week of clear weather and moderate temperatures. Cotton continues to make a vigorous vegetative growth, and second growth of sorghums is shooting up rapidly.

About 10 or 11 acres of alfalfa, 3 plots of sweetclover, and 2 of alfalfa were seeded during the week. Blue grama and side oat grama grasses are making a heavy crop of seed this fall.

Farmers are pushing the fall seeding of small grains as rapidly as possible.

The Comanche County 4-H Club Fair was held on the station on the 17th and 18th with about the usual number of exhibits and attendance as in past years.

WOODWARD:

Two showers totaling 0.50 inch during the week have brought the September rainfall to 3.91 inches. Very little of this has run off. Consequently the soil is in excellent condition for wheat seeding, and tractors are running night and day, getting the job done. On one field in the Texas Panhandle nine outfits were noted equipped with lights to run throughout the 24 hours, except for brief stops for greasing. With abundant moisture in the soil and the early seeding, prospects for pasture at least are very bright.

Sorghum crops have made a heavy vegetative growth over the week. Sowed feed in some cases is shoulder high. On some fields milo gives promise of very heavy yields of seed, but whether low temperatures will permit this to ripen is an open question.

Parosela, shrub althea, honeysuckle, caryopteris, "bird of paradise", liatris, plumbago, salvias, spiderwort, asters, and crapemyrtle make the station a pleasant place to visit, and there are many visitors. Roses have never had more or better blossoms.

Maximum temperature, 88°; minimum, 53°; precipitation, 0.50 inch.

PENDLETON:

Warm, dry weather continues throughout this area. The surface soil is too dry for fall seeding. Work on the station has consisted chiefly of hoeing weeds, watering lawns and trees.

Maximum temperature, 94°; minimum, 42°; precipitation, none.

BELLE FOURCHE:

Clear, ideal fall weather prevailed throughout the week. Killing frosts were reported from nearby localities, but the lowest temperature recorded at the station was 38°. Conditions were favorable for the performance of field work, but the soil on continuously cropped winter wheat plots dried so slowly that they could not be prepared for seeding until the last day of the week. Fall plowing of rotation plots and harvesting of corn and sorgo were completed. Flax was thrashed, but the yields of both early and late seedings were very low.

Maximum temperature, 84°; minimum, 38°; precipitation, none.

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REPORT FOR THE WEEK ENDING SEPTEMBER 25, 1937.

HAVRE:

Rather warm weather early in the week was followed by much lower temperatures with a minimum reading of 27° on Friday morning, the first killing frost of the season. Considerable cloudiness also prevailed, and light precipitation totaling 0.23 inch was recorded on five days. Snowfall amounting to several inches occurred in the nearby Bear Paw range.

Corn picking has been completed in all experimental projects, and harvesting stover is now in progress. Russian thistles were mowed, raked, and hauled from plots being fall plowed. The post-harvest growth of these weeds was exceptionally great this year. Winter wheat and winter rye have been sown in the D.L.A. field under conditions favorable for germination.

Maximum temperature, 86°; minimum, 27°; precipitation, 0.23 inch.

JUDITH BASIN:

Precipitation amounting to 0.50 inch fell within 48 hours during the middle of the week. This was followed by the first severe frost. With cooler weather fall grain should germinate.

Total precipitation since the first of January has now reached 6.42 inches. Better yields than were expected was shown by potatoes in the west field. The best plot on fallowed land yielded about 48 bushels per acre of clean, marketable potatoes.

Work during the past week has consisted of digging potatoes, cutting wood, repairing the shop, grinding feed, general clean-up about buildings, and odd jobs.

Maximum temperature, 87°; minimum, 29°; precipitation, 0.50 inch.

HUNTLEY:

Encouraging showers fell during the week with the moisture penetrating the soil about to the depth of fall seeding. Should there be enough moisture present to sprout winter wheat and rye, the seedlings will need further rains to promote growth. Light frosts followed the rains, but crop injury has been limited to such tender things as tomatoes, melons, and squash. Field work on the plots consisted of planting winter rye, harvesting late corn, hauling manure, and cutting seed alfalfa. Some corn has been husked from the early-maturing plots.

Maximum temperature, 93°; minimum, 32°; precipitation, 0.46 inch.

DICKINSON:

Moderate weather early in the week was followed by unseasonable warmth toward the middle, then by cold and

blustery on Thursday and Friday. Killing frost on September 24 was 10 days later than average. All crops fully matured where moisture was available for growth.

Crested wheatgrass, brome grass, and western wheatgrass were seeded September 20 on fallow and in grain stubble with the common and the furrow drills.

About 200 twelve to eighteen-inch blue spruce were received from the Northern Great Plains Field Station at Mandan and planted September 21. A part of these were treated with a wax emulsion to determine if this will prevent drying over the winter.

The silo was refilled with sorgo.

Maximum temperature, 89°; minimum, 27°; precipitation, 0.05 inch.

MANDAN:

Agronomy - One or two warm days for this time of year occurred early in the week, but the latter part was cool. Threshing for the season was completed early in the week, when a small area of oats and some alfalfa were threshed. Most of the week was spent in cleaning up weeds in the south field and field P.

Maximum temperature, 92°; minimum, 30°; precipitation, trace.

Cooperative Grazing Experiment - The steers on the various pastures still have plenty of feed and appear to have put on fair gains so far this month.

Horticulture - The cutting out of dead wood in fruit trees has been in progress throughout the week. It has been necessary to remove a great deal of dead wood during the past summer, due to the continual dying of wood previously weakened by drought. Wounds are being protected with grafting wax. Many of the trees are weakened, and many will still die from the effects of drought and sunscald, particularly older trees. Younger trees have made a good growth, and most of them will recover.

Harvesting of seed corn both from selfed and open pollinated lines was in progress the early part of the week. In general there was a very good yield, and the ears were unusually well matured considering the late planting (June 2-6). It was noted that silks pollinated in fairly cool weather produced much better ears than those worked on in higher temperatures. Results were very poor on the dates of August 3 and 4, when the temperature ran up into the nineties.

Little damage was noted from the first frost of the year; and tomatoes, eggplant, and pepper, usually very tender, have been harvested right along. This was a very good year for the latter two vegetables. Varieties Blackie eggplant and Worldbeater pepper produced bumper yields of prime vegetables. Squashes and pumpkins were harvested the latter part of the week; the yields were excellent.

Arboriculture - Taking of fall notes and measuring tree heights has continued on days free from high winds.

Collection of Russian-olive seed has also been continued, with about 700 pounds now collected. The freezing temperature on the night of the 25th was probably sufficient to check all plant growth.

BELLE FOURCHE:

Unseasonably warm weather during the fore part of the week was followed by two cold, cloudy days, during which a strong, raw wind prevailed. The sky cleared the evening of September 24, and the first killing frost of the season occurred during the night, when the temperature remained below freezing 8 hours,and a minimum of 25° was recorded. Potato vines and all tender crops were killed, and the leaves of sugar beets were partially frosted. Field work included husking of corn from unharvested plots, seeding of winter wheat and winter rye, and completion of fall listing.

Maximum temperature, 94°; minimum, 25°; precipitation, trace.

ARCHER:

The weather during the week ending September 25 was clear and warm with the exception of September 24. During the nights of September 23 and 24 the temperature dropped to 24° and 25°, respectively. All green crops were frozen. Today the weather is clear and warmer. The first snow of the fall season occurred during the evening of September 24.

The last of the rotation corn was cut September 24. Only a small field of corn remains standing. The freezing of the potato vines was of no great consequence, because the dryness of the soil prevented further growth. The lambs in the corn pasture experiment have eaten most of the leaves in the 22-acre pasture and have started to eat the grain.

Work at the station consisted of cutting and shocking corn on the rotation plots.

Harold Hurich, Vocational Instructor at the Hillsdale High School, and class of 15 students, judged dairy cattle and sheep at the station September 22.

Maximum temperature, 88°; minimum, 24°; precipitation, 0.02 inch.

NORTH PLATTE:

Warm, summer weather prevailed throughout the week until Thursday evening, at which time a severe dust storm cooled the air. Rain was reported in sections west. The cool weather continued through Friday and Saturday. A light shower fell during Friday night. The temperature lowered into the thirties during these two nights, and a little frost was observed in spots. Only one rain of one-half inch has fallen during September to be of any value to crops. The rest of the moisture has fallen in light showers. Total rain for the month to date is 0.72 inch.

The seeding of winter wheat was completed on Monday, and it has emerged on all fallow plots and corn plots.

There has been no emergence to date on the late fall tillage plots. The early Kalo plots were harvested during the week. The early Kalo grown on fallow will make good yields, but that on cropped land will be near failures. The fall soil sampling was started this week.

The annual fall Feeders' Day was held on Friday and was attended by approximately 250 farmers and ranchers. Several drove to the dry-land farm to see the sorghum and grass work that is being carried on.

Maximum temperature, 96°; minimum, 37°; precipitation. 0.12 inch.

AKRON:

Harvesting of millets and sorghums and work incident to inaugurating the hog feeding experiment claimed the major attention this week. H. B. Osland and R. C. Tom of the State College spent the week and supervising the starting of the three lots of 10 hogs each on the controlled feeding experiment.

Thursday evening there was a weather phenomenon of unusual nature for this season of the year. Following a very low barometric reading, a dark cloud of dust approached from the Northwest that reduced visibility to a few hundred feet for about an hour. It was a reminder of what may be in store for us this coming spring, if every bit of vegetation is pastured off as it was in the winter of 1934. Inclement weather continued until today, Saturday. Last night, about 10 o'clock, the first flakes of snow of the season fell. The minimum temperature descended to 30° following the dust storm Thursday but apparentlystayed at this low only a short time, because such tender forms of vegetation as tomatoes, potatoes, melons, and squash were only nipped.

Mr. Curtis and his mother moved Thursday to his new permanent headquarters at Fort Collins.

C. J. Stahl of the Denver headquarters of the Forest Service visited Friday.

Maximum temperature, 92°; minimum, 30°; precipitation, 0.11 inch.

COLBY:

This week was hot and windy with more or less soil blowing, until yesterday when it turned cold. The temperature dropped from a maximum of 95° on Thursday afternoon to a minimum of 42° Friday morning. The temperature this morning was 38°. There has been no rain, and the surface soil is drying out considerably. A dust cloud rolled in from the southwest Thursday evening at about 8 o'clock. The wind then shifted from the southwest to the northwest and blew a gale most of the night, causing considerable soil blowing. Grasshoppers are very numerous. More poison is being spread than ever to save the young wheat. Some fields have been badly damaged by the grasshoppers.

The wheat is coming up to good stands on nearly all the plots. On those where thistles had come up fairly thick in

the stubble, the emergence is slow. Grasshoppers are also numerous on those plots. The corn plots were hauled in and weighed this week. There were no grain yields. The fodder yields ranged from nothing to 78 pounds per plot. The sorghums are beginning to dry again.

Maximum temperature, 96°; minimum, 38°; precipitation, none.

HAYS:

Weather was generally windy, especially Tuesday, Wednesday, and Thursday, during which time a heavy southerly wind kept smooth-surface fields dusting. High temperatures, for late September, accompanied these winds. During the night of the 23rd, the wind changed to the north, and the temperature dropped to 51°.

Alfalfa and bromegrass seeded on the plots this fall suffered considerably damage from the heat and wind. It is doubtful if the stands will survive, although both alfalfa and bromegrass have been promising up to this time.

Kafir and milo that made grain on the project is being headed, and most of it in this vicinity is being harvested for feed. Very little grain has been produced.

Most of the winter wheat in this vicinity has been seeded. On the unseeded fields, drills continue running and the job will soon be finished. The earliest seeding is up to a fair stand.

On the Dry-Land project, final preparations have been completed for seeding, but no wheat has been drilled to date. The rye plots were drilled today. Seeding of wheat on the commercial fields of the Experiment Station will be completed today.

Maximum temperature, 98°; minimum, 36°; precipitation, trace.

GARDEN CITY:

On five days of this week the wind velocity ranged from 11.3 to 18.2 m.p.h. There was considerable dust in the air on a few of these days, but none would be termed bad dust storms. Prospects for dust storms in this immediate vicinity appear to be good. Soil moisture is low, and thus a sufficient cover of wheat probably will not be obtained, and also the soil can not be worked properly to control blowing.

Field work consisted of cutting corn, which yielded only a very few nubbins. The best was on fallowed land, the next best on spring plowed land, and the poorest was on fall plowed, and fall plowed and subsoiled land. This sequence is also true of the average for a period of 26 years.

Maximum temperature, 93°; minimum, 41°; precipitation, trace.

TUCUMCARI:

The week was without rain, but threatening clouds and north winds prevailed much of the time, and a marked drop in temperature occurred.

Wheat and rye plots were fenced to prevent rabbit attack, cowpea seed was picked, a number of cowpea plots were cut and cocked, corn plots were cut and shocked, and stalk counts were made on cooperative sorghum plots. What is

possibly the final 1937 cultivation and hoeing of tree rows was made.

Maximum temperature, 89°; minimum, 48°; evaporation, 1.897; wind movement, 5.7 miles.

LAWTON:

Maximum temperatures were rather high during most of the week, and as in past weeks for nearly a month the wind velocity was very low. A sudden change in temperatures and wind velocity occurred on the 24th, when a strong north wind reduced the maximum to 81° and the minimum to 55°.

During the period of high maximum temperatures and low wind velocity, flies and mosquitoes constituted a severe menace to animal life. Sleeping sickness has spread rapidly over the horse population of the entire State, and considerable loss has been incurred. None of the station work stock has been affected to date.

Cotton, second growth sorghums, and late planted sorghums continued to make a rank vegetative growth.

Considerable tillage has been necessary to kill volunteer growth of small grains, and there is a decided lack of surface moisture on such land. Emergence of alfalfa and sweetclover would be greatly benefitted by a moderate rain.

Cotton picking in southwestern Oklahoma progressed rapidly the past week. It is estimated that approximately 4,000 bales have been ginned to date in Comanche County. That is equal to the total crop produced in 1936. Present estimates of this years crop point to about 12,000 bales. About 60 percent of the cotton has a 13/16 inch staple and the remaining 40 percent measures about 7/8 inch or better. Local prices range from 5 to 6 cents for 13/16 inch staple to 7½ to 8¼ cents for staple that measures 1 to 1-1/16 inch. No picking on the station has been done to date.

Threshing of kafir on the rotation plots is being completed today, and a number of plots in the grain sorghum variety test have been threshed.

WOODWARD:

The past week has shown a tremendous development in the sorghums. Kafirs, which were still lingering in the boot a week ago, are now fully headed. Milo, which was somewhat further along, is now developing seed on very large heads. Were the sorghums in their present condition a month earlier, an almost record seed crop would be predicted. As it is, it is improbable much seed will mature. On the Cereal project, the shorter season sorghums are making an unusually fine showing.

Farmers are still busily engaged in planting every available acre to wheat. Cattle are grazing on volunteer wheat on land not yet planted. Much grazing is also being done on land planted to sorghums in the AAA program, seed removal and moderate grazing only being allowed. Trees have made a tremendous come-back since the rain, many of them making heavy foliage and twig growth. A number of summer bloom-

ing shrubs are loaded with buds as never before. These likely will be killed by frost before opening.

Professors H. W. Gilbert, and W. F. Pickett of the Horticultural Department, Manhattan, spent two days studying plant material on the station.

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